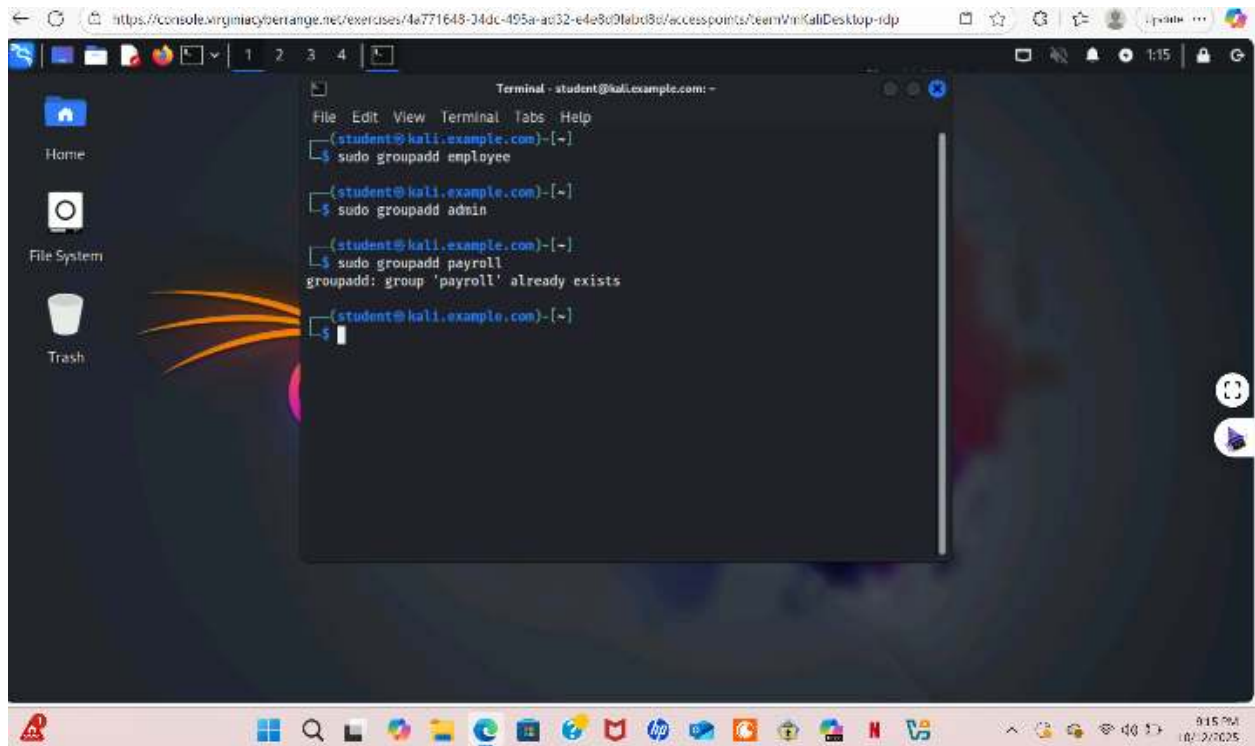


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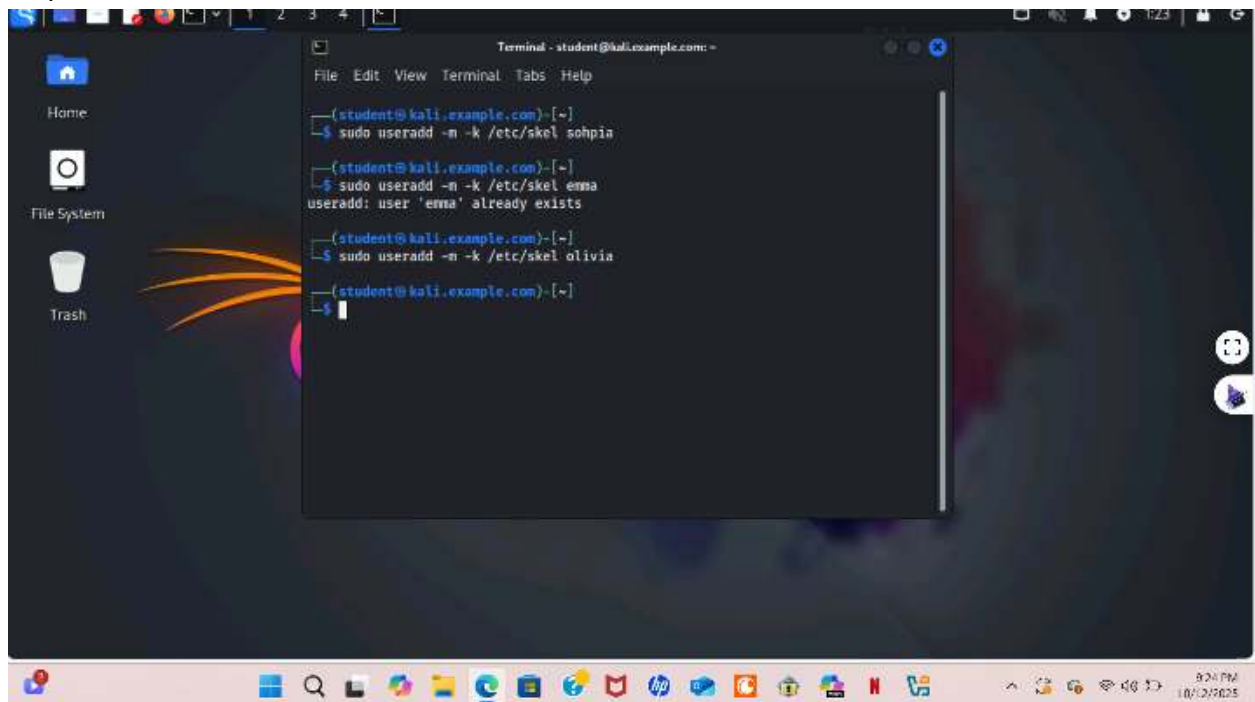
Step 1



The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal displays the following commands and output:

```
Terminal - student@kali.example.com: -  
File Edit View Terminal Tabs Help  
(student@kali.example.com)-[~]  
$ sudo groupadd employee  
(student@kali.example.com)-[~]  
$ sudo groupadd admin  
(student@kali.example.com)-[~]  
$ sudo groupadd payroll  
groupadd: group 'payroll' already exists  
(student@kali.example.com)-[~]  
$
```

Step 2

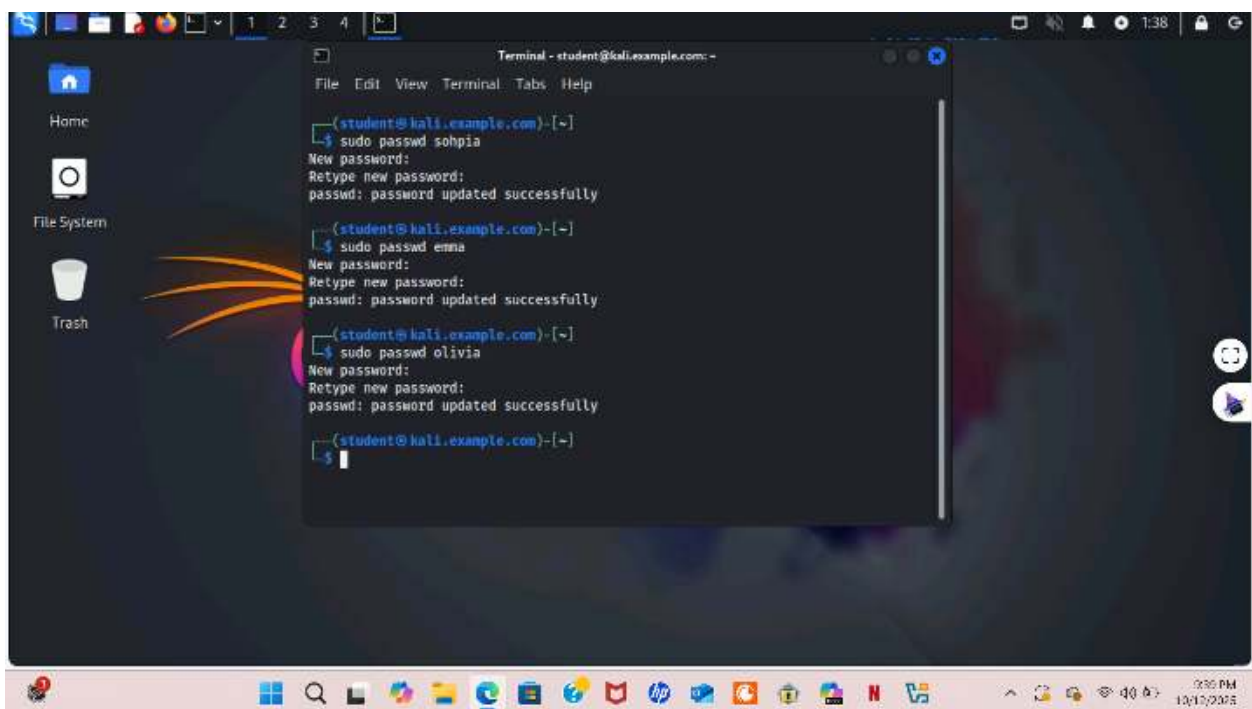
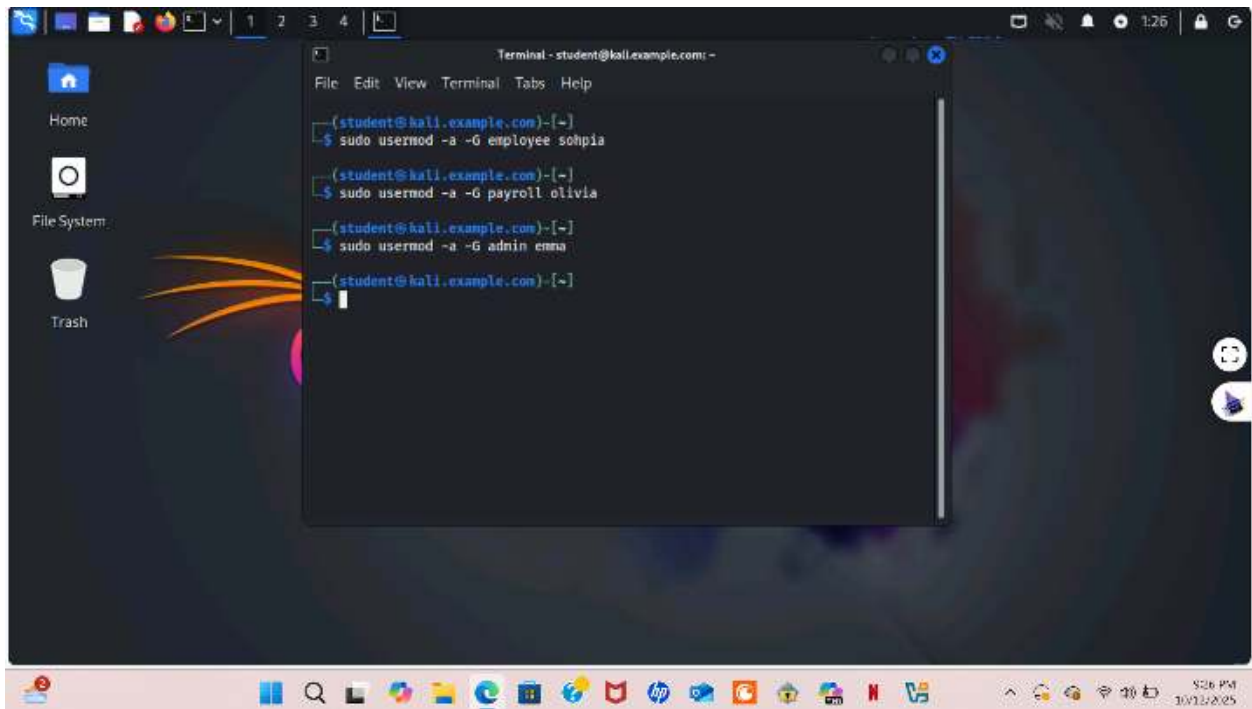


The screenshot shows a Kali Linux desktop environment with a terminal window open. The terminal displays the following commands and output:

```
Terminal - student@kali.example.com: -  
File Edit View Terminal Tabs Help  
(student@kali.example.com)-[~]  
$ sudo useradd -m -k /etc/skel sohpia  
(student@kali.example.com)-[~]  
$ sudo useradd -m -k /etc/skel emma  
useradd: user 'emma' already exists  
(student@kali.example.com)-[~]  
$ sudo useradd -m -k /etc/skel olivia  
(student@kali.example.com)-[~]  
$
```

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```
Terminal - student@kali.example.com: ~  
File Edit View Terminal Tabs Help  
~(student@kali.example.com)-[~]  
└─$ su sohpia  
Password:  
└─$ cd  
└─$ echo $SHELL  
/bin/sh  
└─$ exit  
  
~(student@kali.example.com)-[~]  
└─$ su olivia  
Password:  
└─$ cd  
└─$ echo $SHELL  
/bin/sh  
└─$ exit  
  
~(student@kali.example.com)-[~]  
└─$ su emma  
Password:  
└─$ cd  
sh: 1: cd: can't cd to /home/emma  
└─$ echo $SHELL  
/bin/sh  
└─$
```

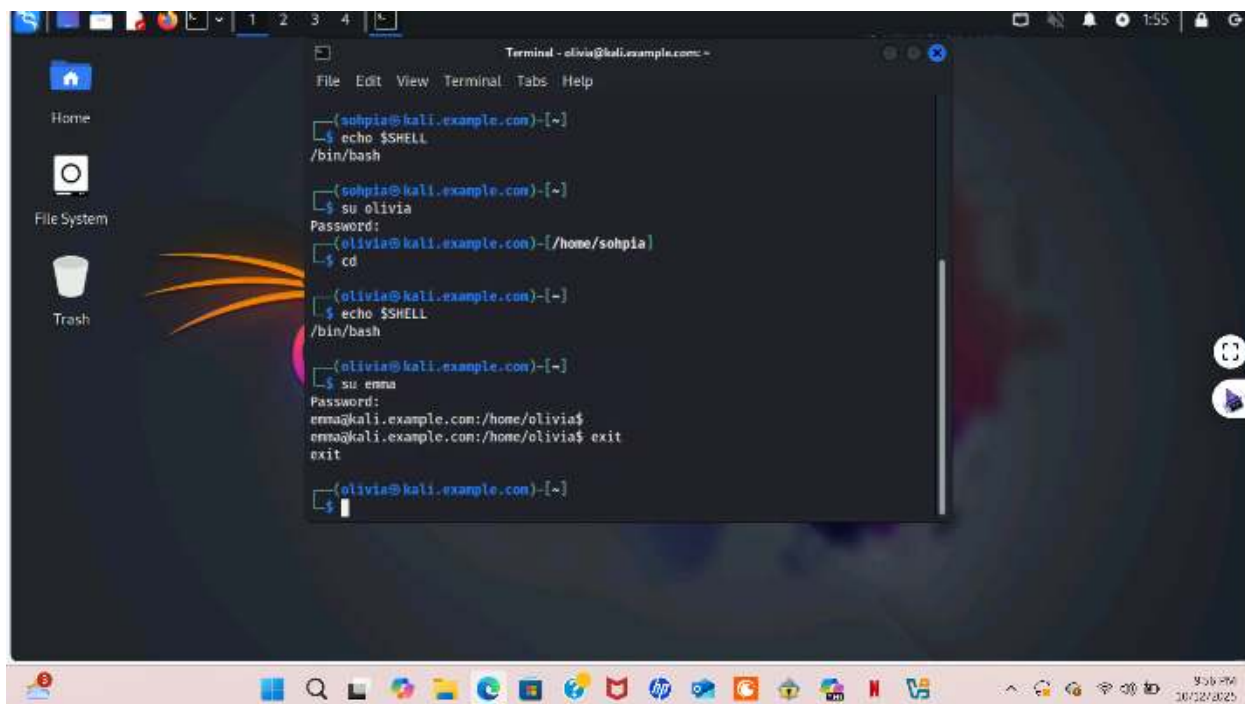


```
Terminal - olivia@kali.example.com: ~  
File Edit View Terminal Tabs Help  
~(student@kali.example.com)-[~]  
└─$ sudo usermod -s /bin/bash sohpia  
~(student@kali.example.com)-[~]  
└─$ sudo usermod -s /bin/bash olivia  
~(student@kali.example.com)-[~]  
└─$ sudo usermod -s /bin/bash emma  
~(student@kali.example.com)-[~]  
└─$ su sohpia  
Password:  
sohpia@kali.example.com: ~/home/student  
└─$ cd  
sohpia@kali.example.com: ~  
└─$ echo $SHELL  
/bin/bash  
sohpia@kali.example.com: ~  
└─$ su olivia  
Password:  
olivia@kali.example.com: ~/home/sohpia
```



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```
Terminal - olivia@kali.example.com -
File Edit View Terminal Tabs Help

(sohpia@kali.example.com)-[~]
$ echo $SHELL
/bin/bash

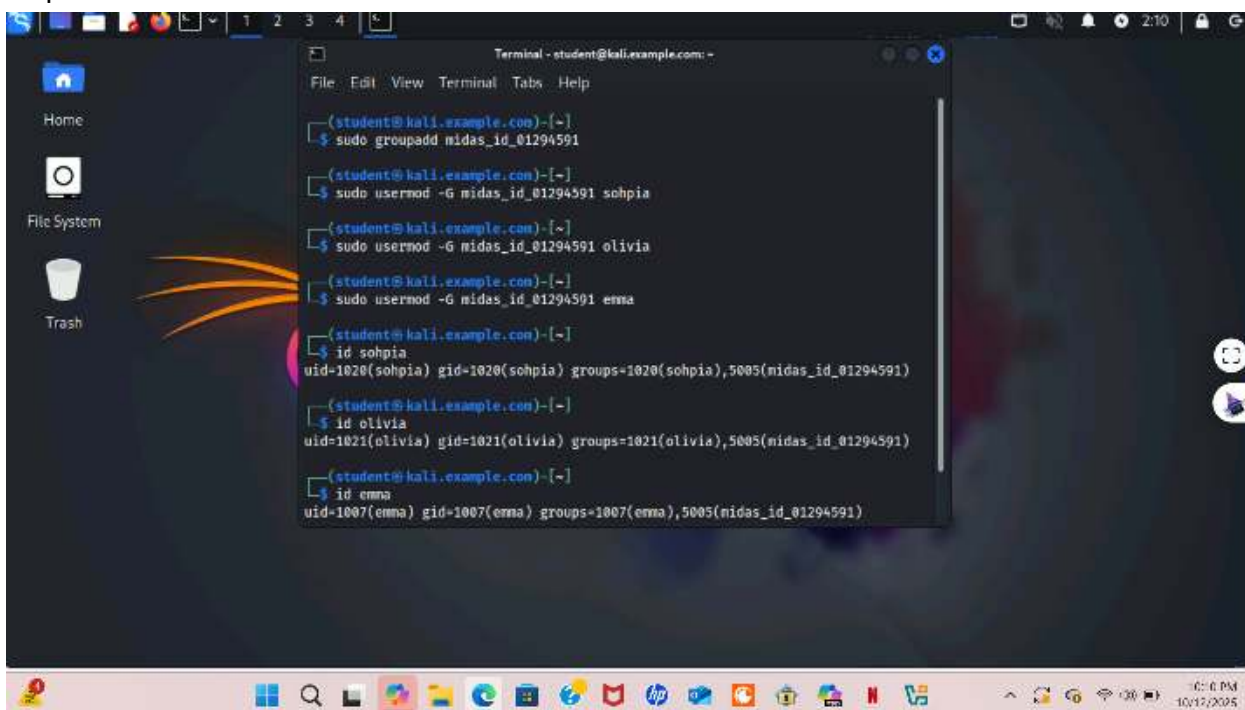
(sohpia@kali.example.com)-[~]
$ su olivia
Password:
(olivia@kali.example.com)-[/home/sohpia]
$ cd

(olivia@kali.example.com)-[~]
$ echo $SHELL
/bin/bash

(olivia@kali.example.com)-[~]
$ su emma
Password:
emma@kali.example.com:/home/olivia$
emma@kali.example.com:/home/olivia$ exit
exit

(olivia@kali.example.com)-[~]
$
```

Step 3:



```
Terminal - student@kali.example.com -
File Edit View Terminal Tabs Help

(student@kali.example.com)-[~]
$ sudo groupadd midas_id_01294591

(student@kali.example.com)-[~]
$ sudo usermod -G midas_id_01294591 sohpia

(student@kali.example.com)-[~]
$ sudo usermod -G midas_id_01294591 olivia

(student@kali.example.com)-[~]
$ sudo usermod -G midas_id_01294591 emma

(student@kali.example.com)-[~]
$ id sohpia
uid=1020(sohpia) gid=1020(sohpia) groups=1020(sohpia),5005(midas_id_01294591)

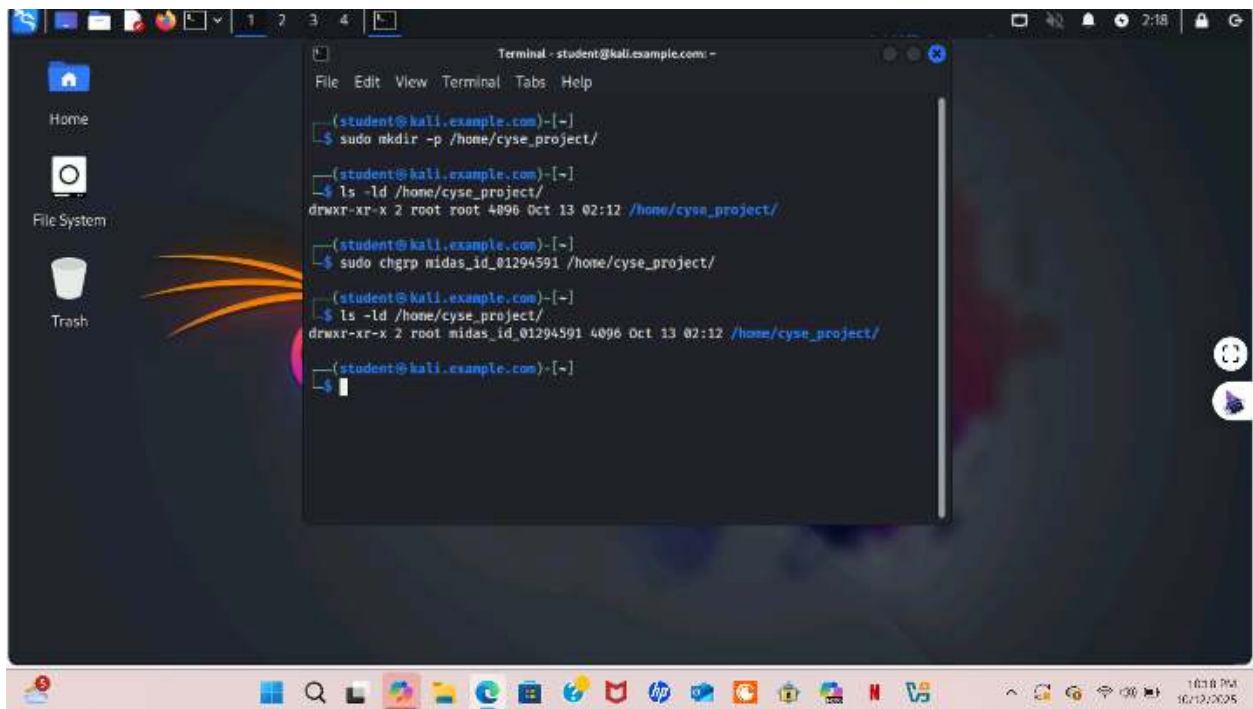
(student@kali.example.com)-[~]
$ id olivia
uid=1021(olivia) gid=1021(olivia) groups=1021(olivia),5005(midas_id_01294591)

(student@kali.example.com)-[~]
$ id emma
uid=1007(emma) gid=1007(emma) groups=1007(emma),5005(midas_id_01294591)
```

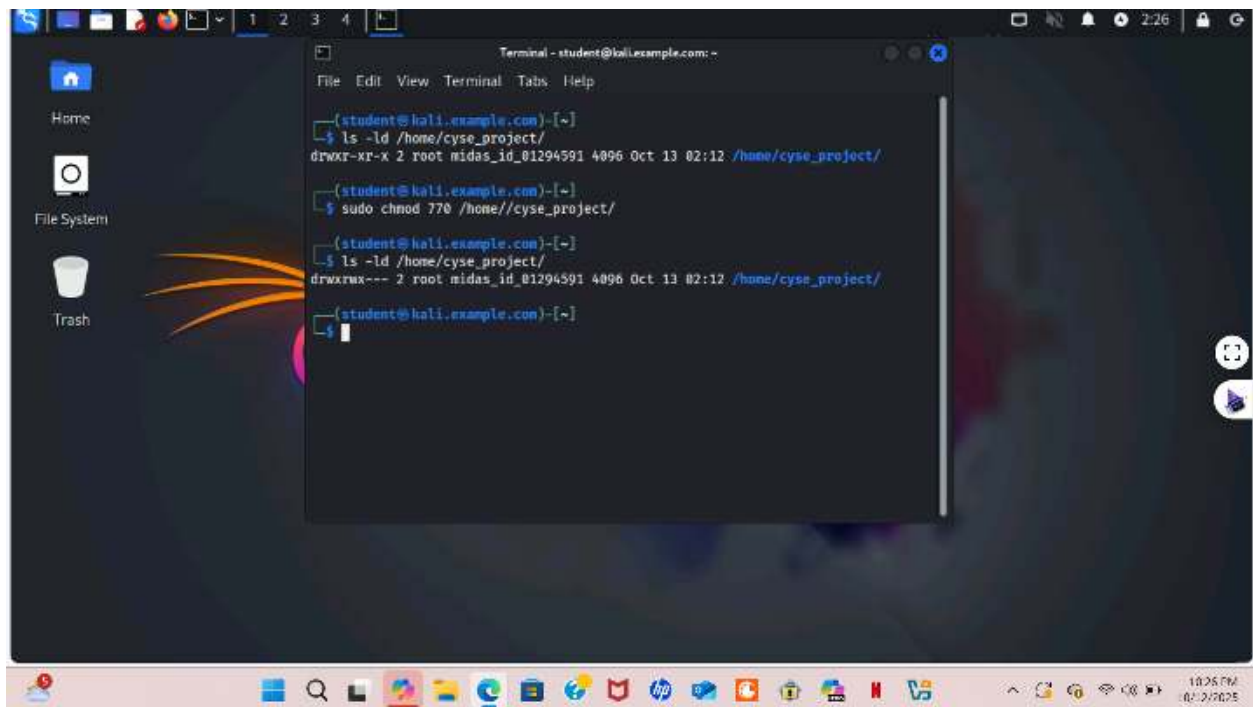
Step 4:

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Lab 6 – File Permission



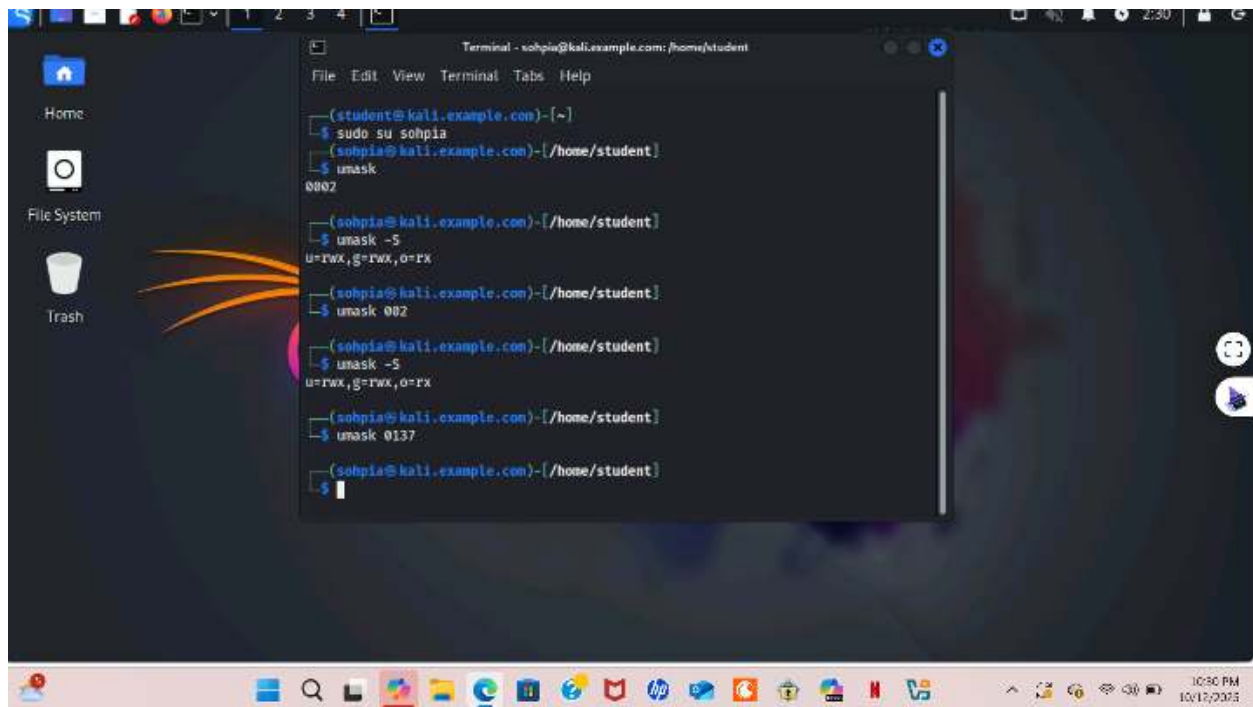
Step 5:



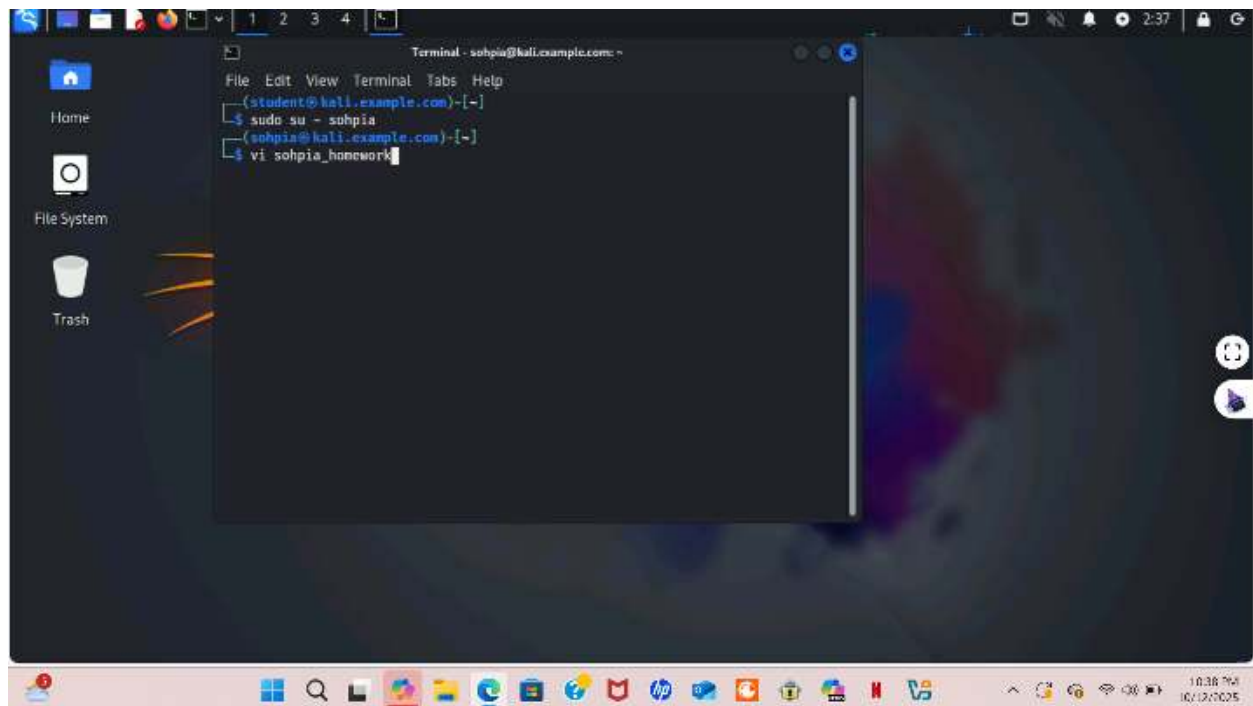
Step 6:

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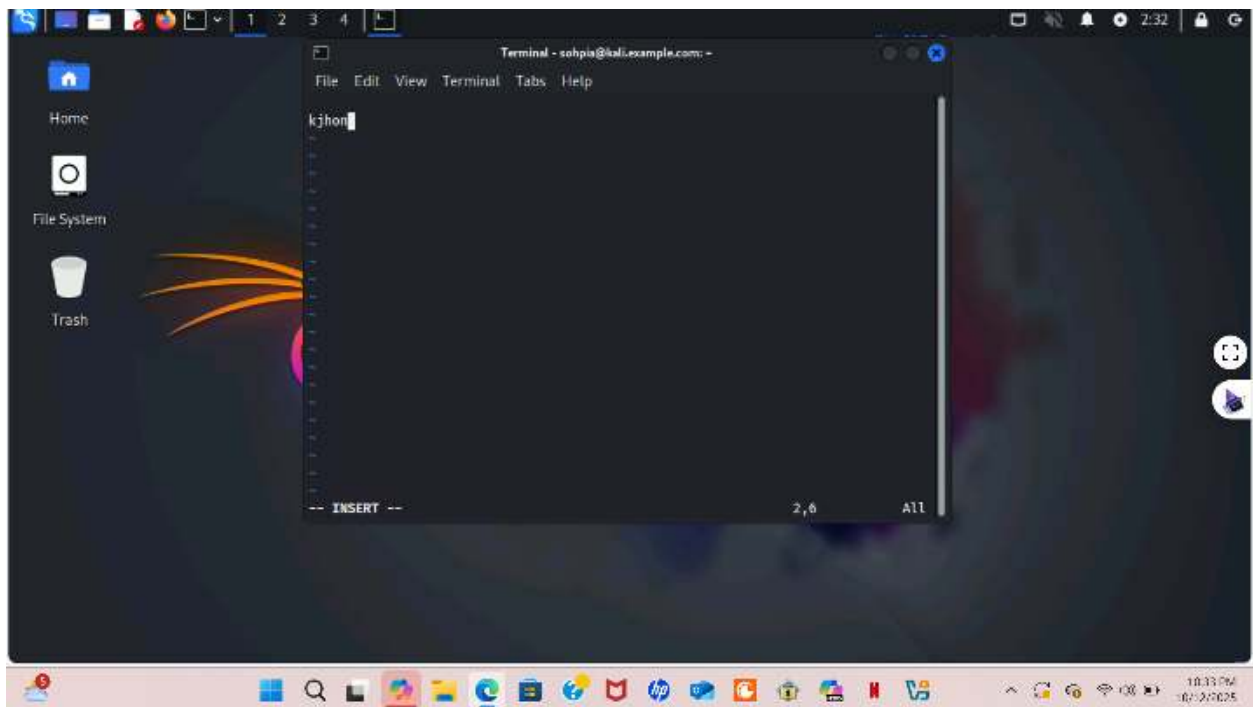


Step 7:

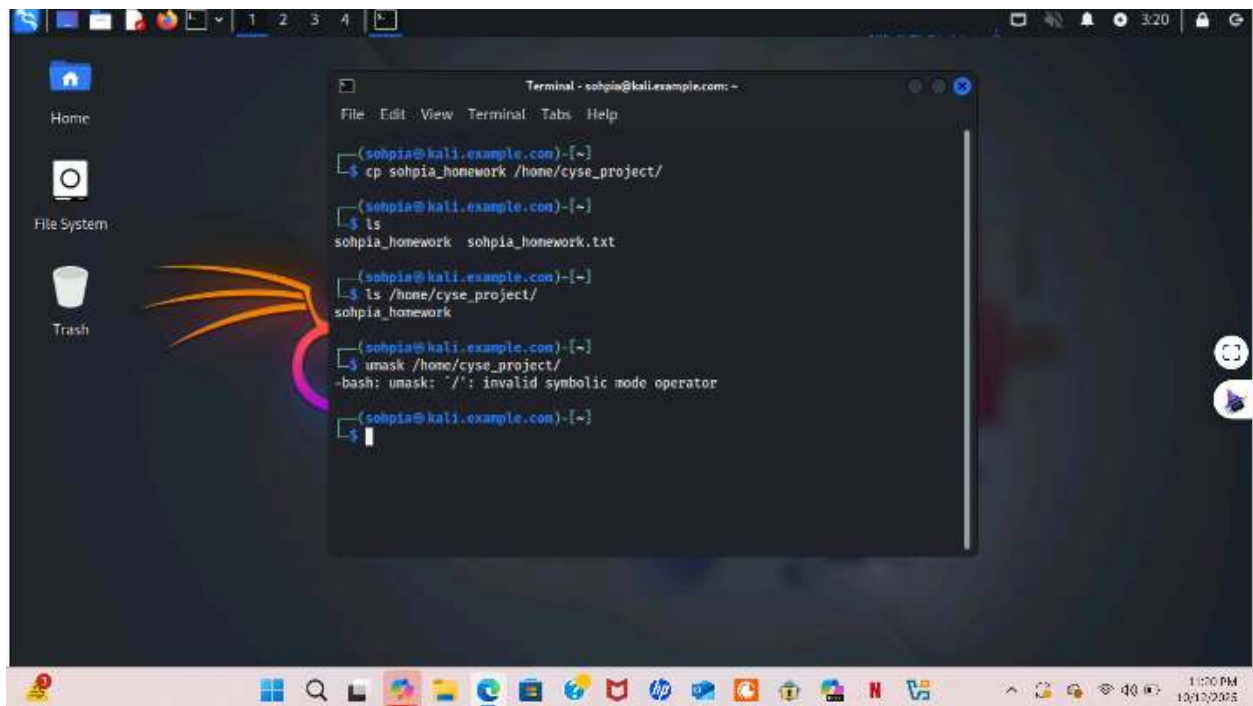


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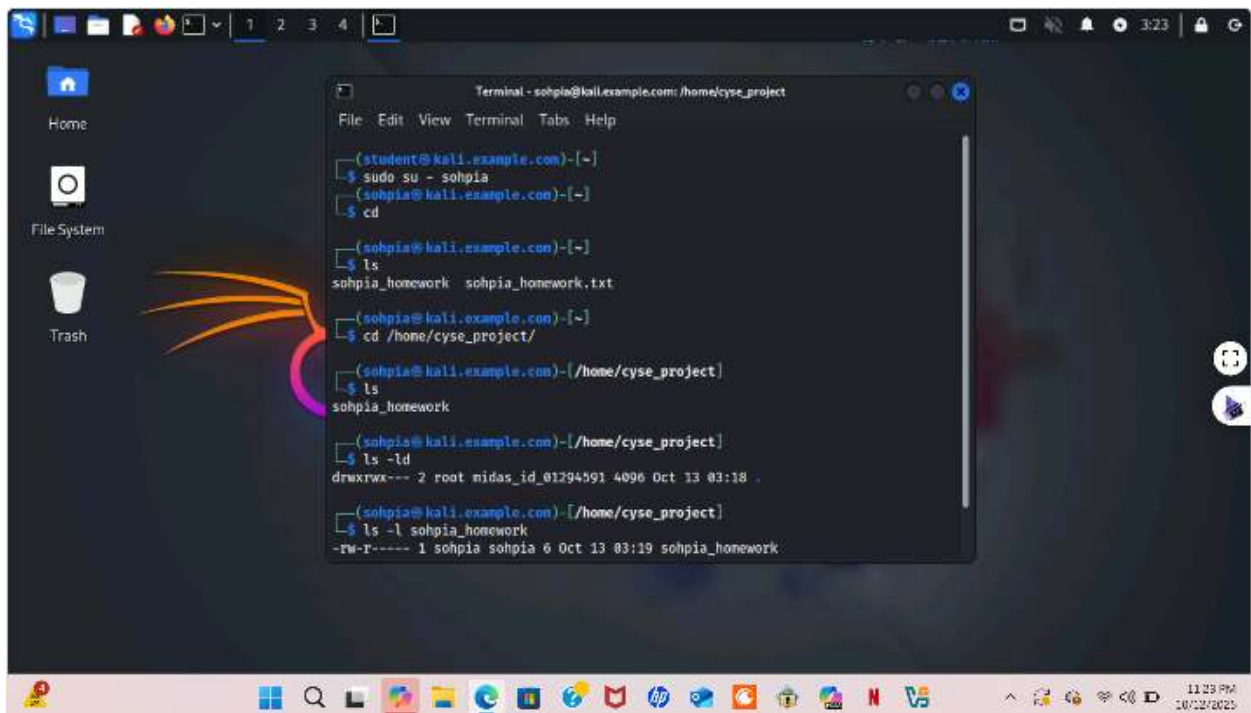


Step 8:

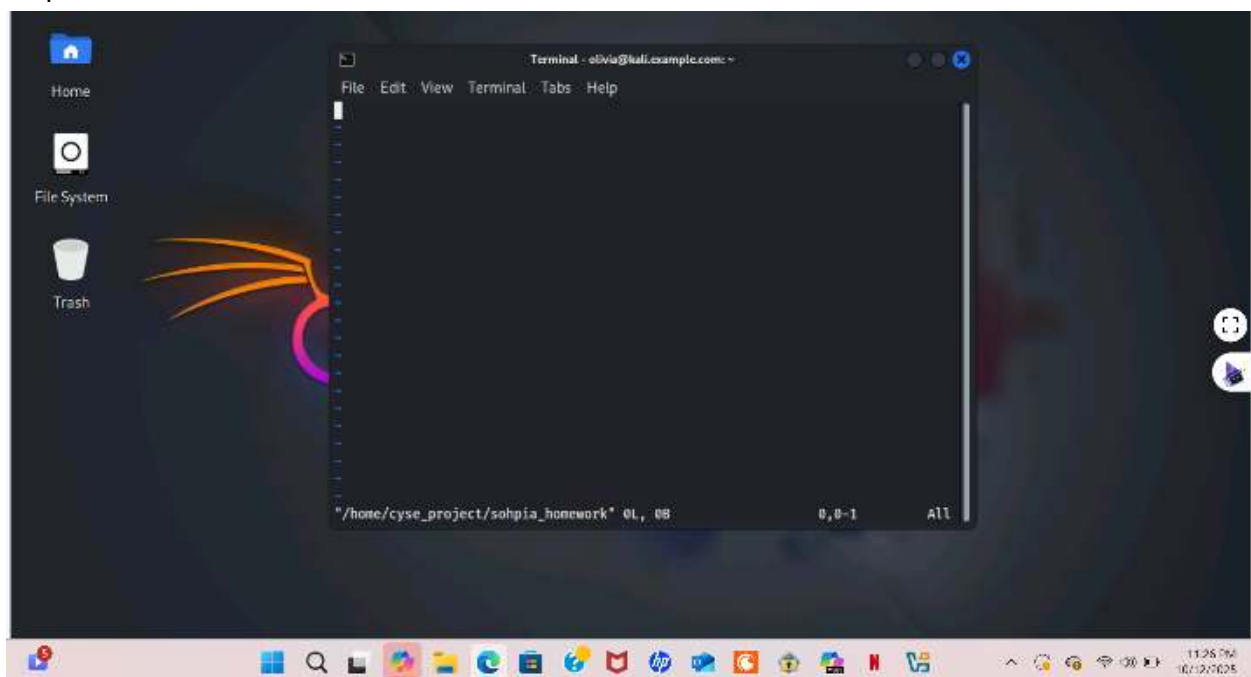


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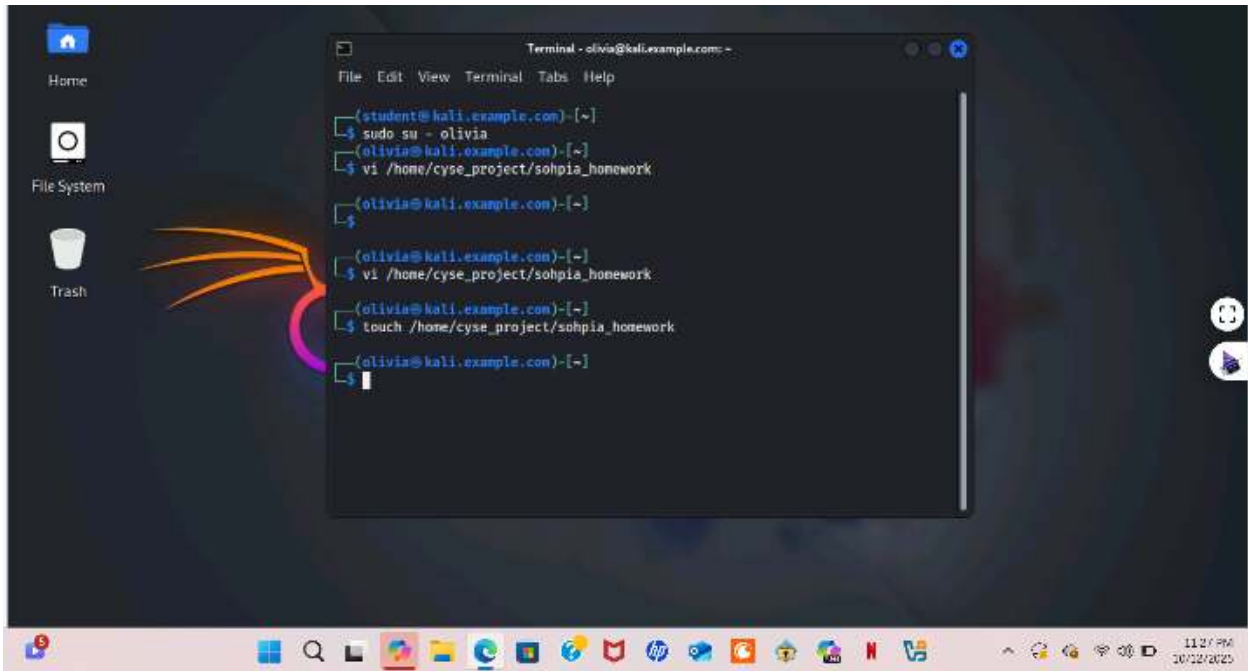
Lab 6 – File Permission



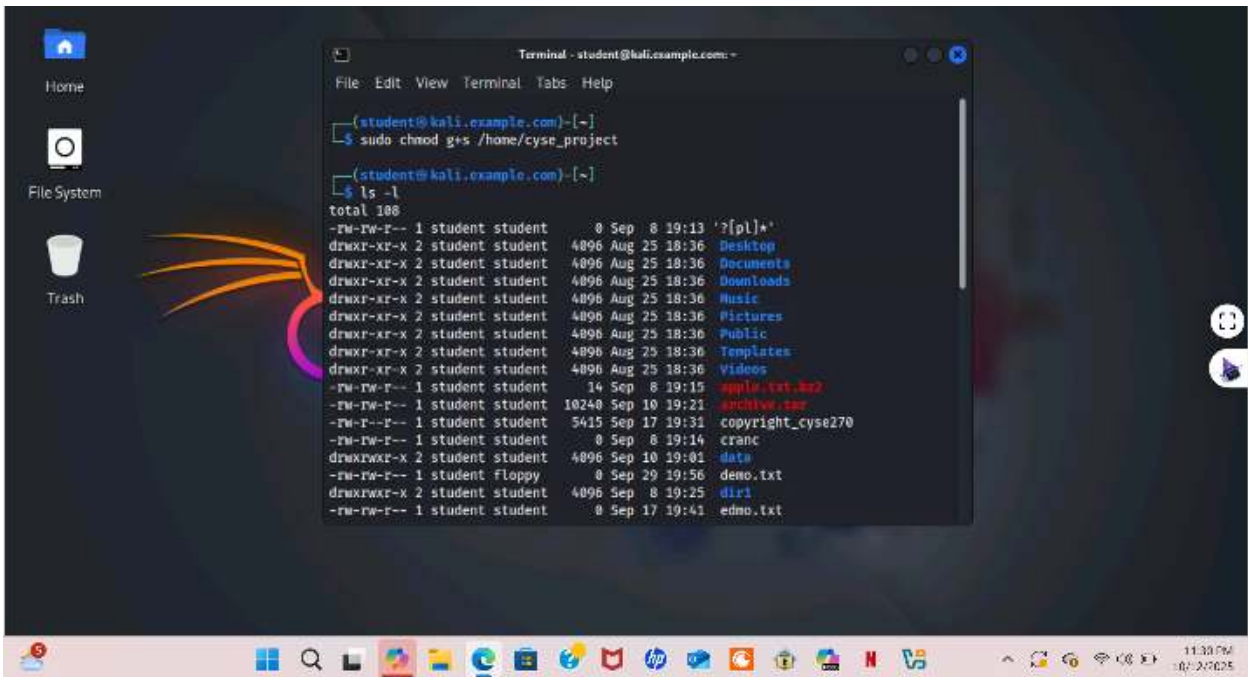
Step 9:



CYSE 270: Linux System for Cybersecurity
Lab 6 – File Permission

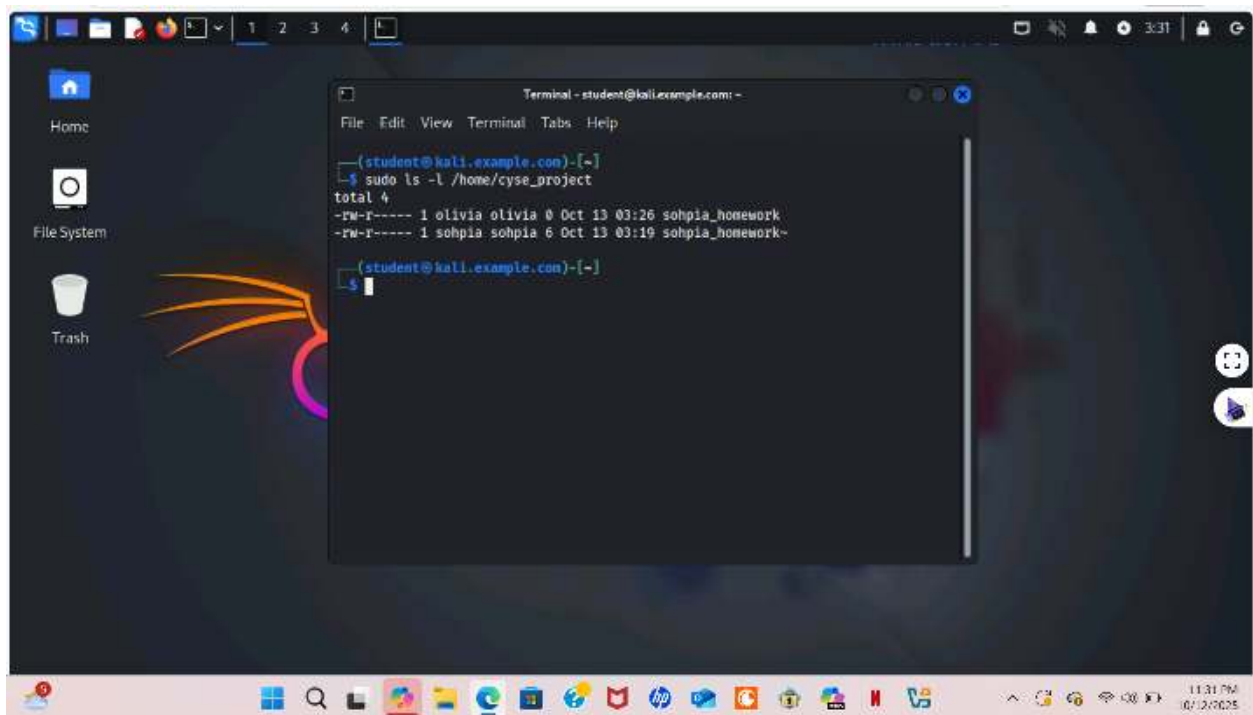


TASK B:
Step 1:

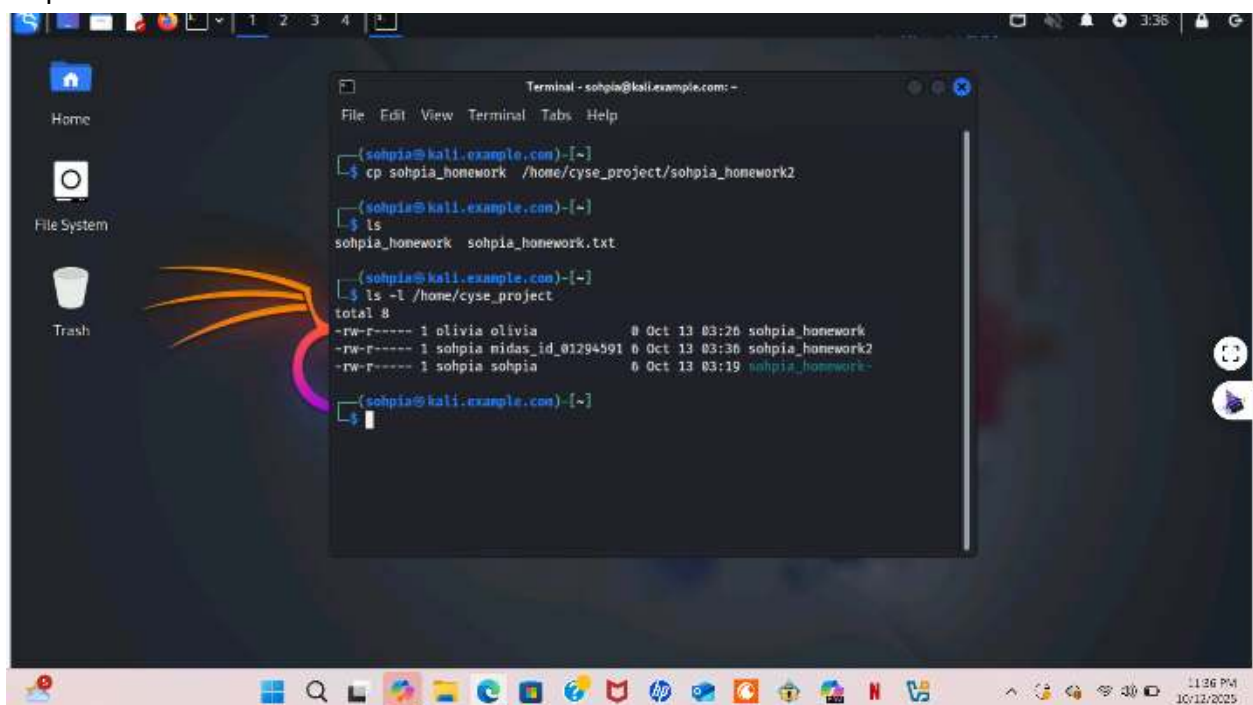


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Lab 6 – File Permission



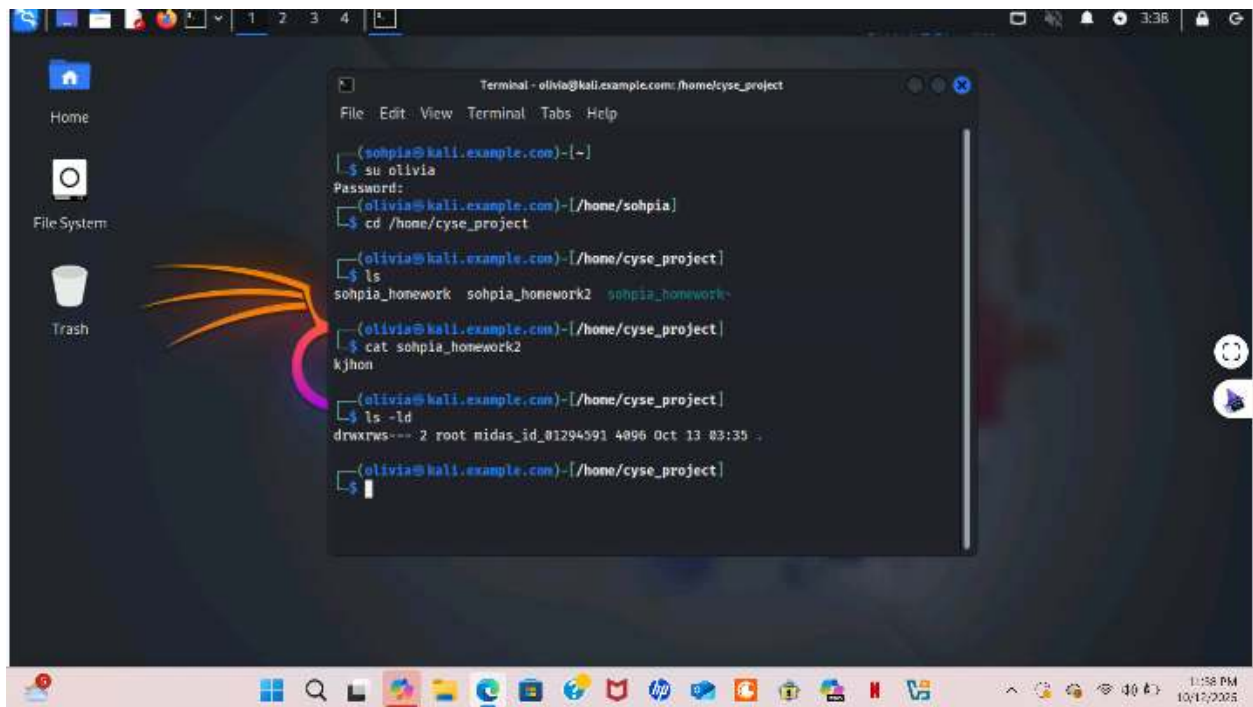
Step 2:



Step 3:

CYSE 270: Linux System for Cybersecurity

Lab 6 – File Permission

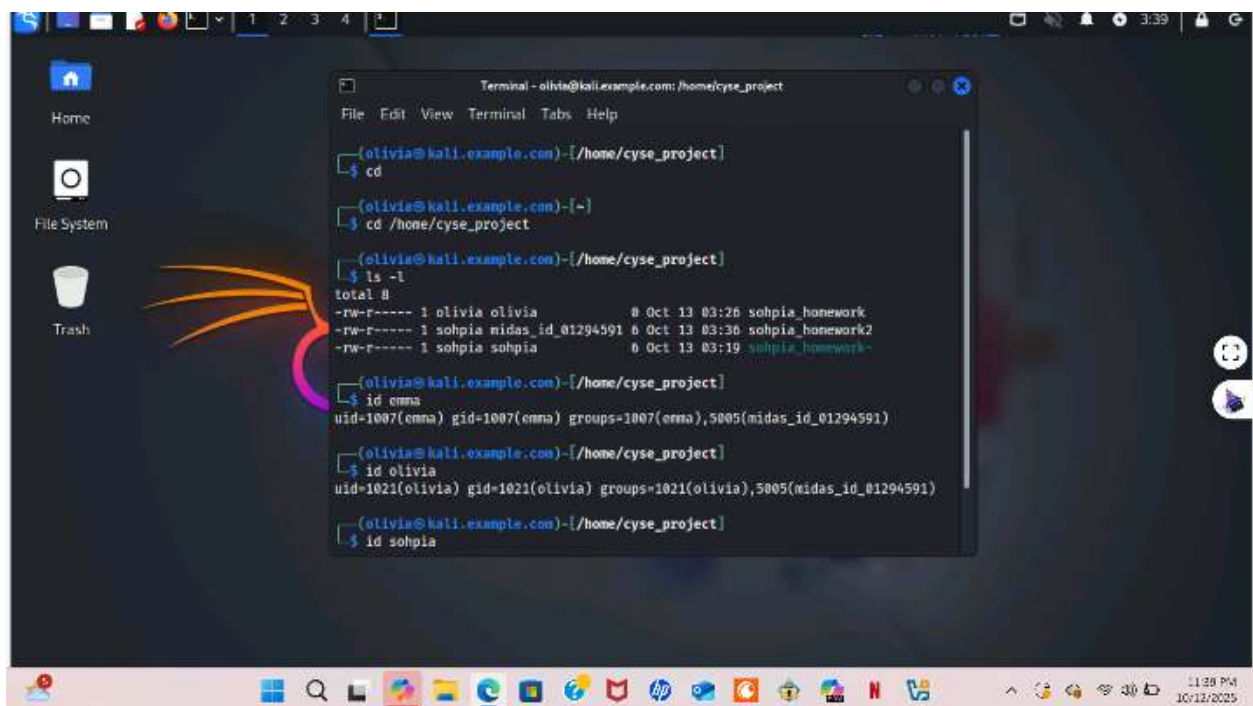


```
Terminal - olivia@kali.example.com: /home/cyse_project
File Edit View Terminal Tabs Help

(sohpia@kali.example.com)-[~]
└─$ su olivia
Password:
(olivia@kali.example.com)-[/home/sohpia]
└─$ cd /home/cyse_project

(olivia@kali.example.com)-[/home/cyse_project]
└─$ ls
sohpia_homework  sohpia_homework2  sohpia_homework-
└─$ cat sohpia_homework2
kjhon

(olivia@kali.example.com)-[/home/cyse_project]
└─$ ls -ld
drwxrws--- 2 root midas_id_01294591 4096 Oct 13 03:35 .
└─$
```



```
Terminal - olivia@kali.example.com: /home/cyse_project
File Edit View Terminal Tabs Help

(olivia@kali.example.com)-[/home/cyse_project]
└─$ cd

(olivia@kali.example.com)-[~]
└─$ cd /home/cyse_project

(olivia@kali.example.com)-[/home/cyse_project]
└─$ ls -l
total 8
-rw-r----- 1 olivia olivia      0 Oct 13 03:26 sohpia_homework
-rw-r----- 1 sohpia midas_id_01294591 0 Oct 13 03:36 sohpia_homework2
-rw-r----- 1 sohpia sohpia      0 Oct 13 03:19 sohpia_homework-

(olivia@kali.example.com)-[/home/cyse_project]
└─$ id emma
uid=1007(emma) gid=1007(emma) groups=1007(emma),5005(midas_id_01294591)

(olivia@kali.example.com)-[/home/cyse_project]
└─$ id olivia
uid=1021(olivia) gid=1021(olivia) groups=1021(olivia),5005(midas_id_01294591)

(olivia@kali.example.com)-[/home/cyse_project]
└─$ id sohpia
```

Task C
Step: 1

CYSE 270: Linux System for Cybersecurity

Lab 6 – File Permission

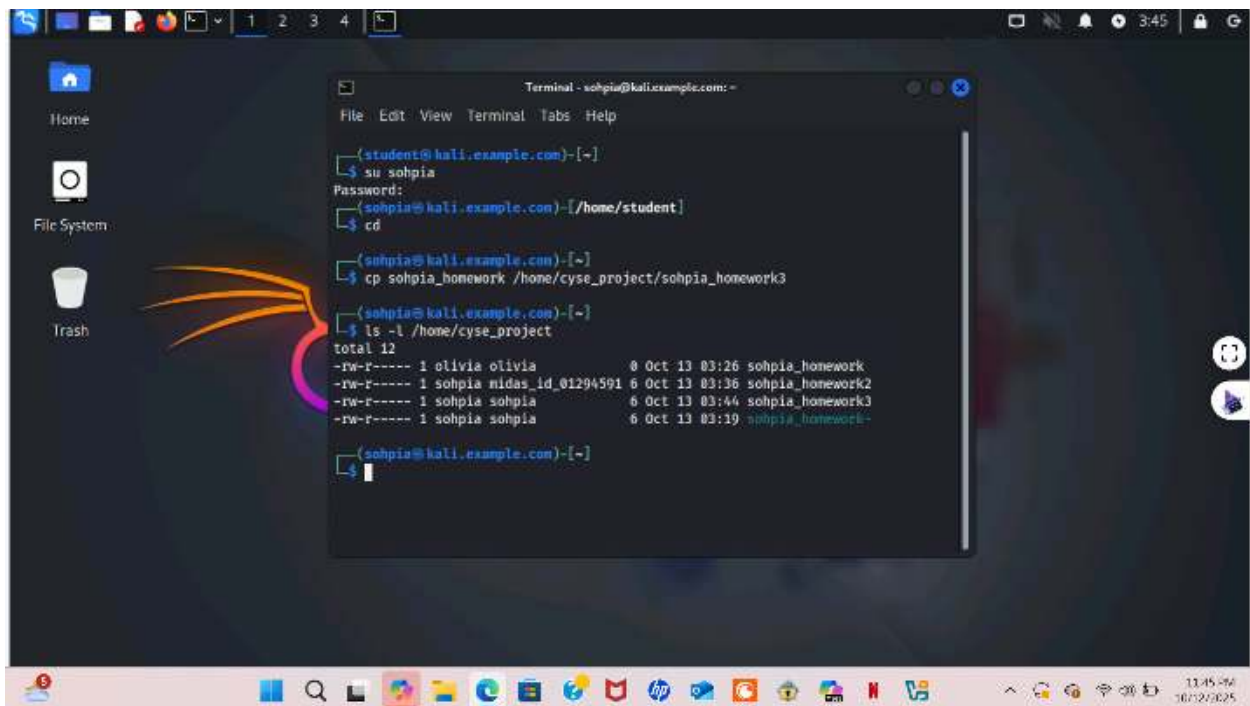


A terminal window on a Kali Linux desktop environment. The terminal shows a user named 'student' at 'kali.example.com' in the directory '~'. The user runs 'sudo su' to become root. Then, they run 'chmod g-s /home/cyse_project' to remove group write permissions from the directory. They then run 'chmod g-s /home/cyse_project/' to remove group write permissions from the directory and its contents. The terminal prompt returns to the user 'root'.

```
Terminal - root@kali.example.com: /home/student
File Edit View Terminal Tabs Help

(student@kali.example.com)-[~]
└─$ sudo su
(root@kali.example.com)-[/home/student]
└─$ chmod g-s /home/cyse_project
(root@kali.example.com)-[/home/student]
└─$ chmod g-s /home/cyse_project/
(root@kali.example.com)-[/home/student]
└─$
```

Step 2:



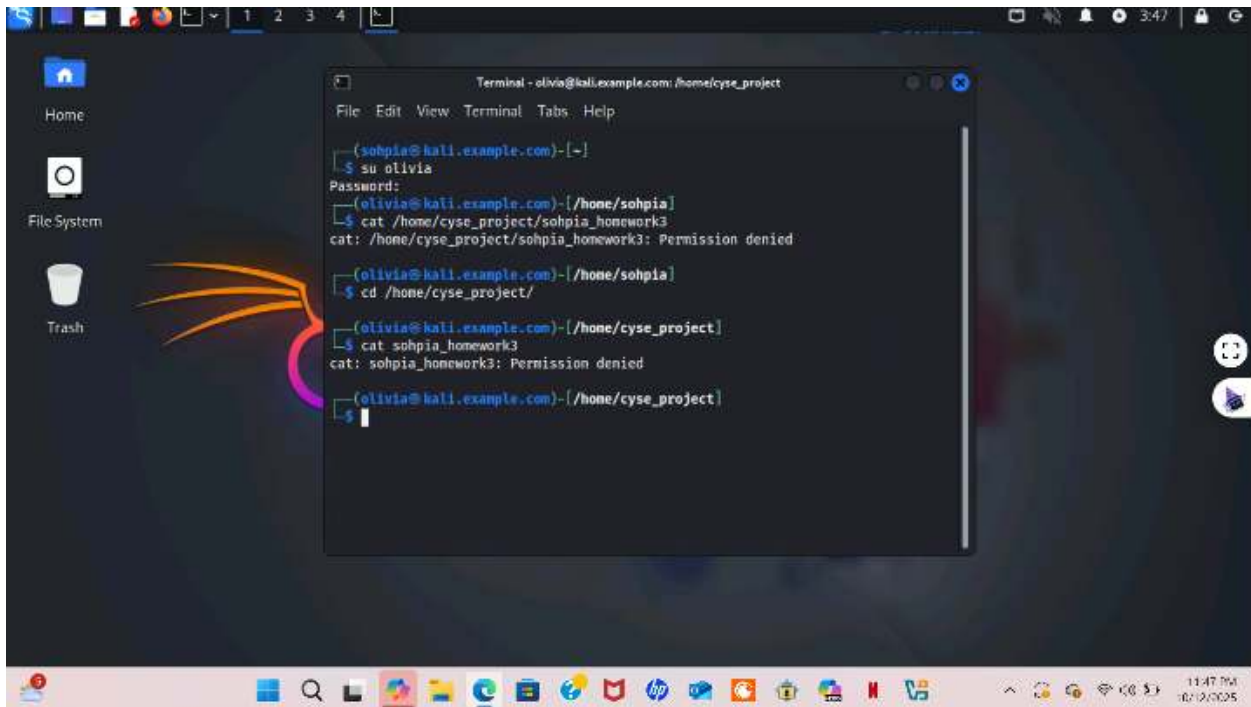
A terminal window on a Kali Linux desktop environment. The user 'student' at 'kali.example.com' runs 'su sohpia' to become user 'sohpia'. They then run 'cd' to move to their home directory. Next, they run 'cp sohpia_homework /home/cyse_project/sohpia_homework3' to copy a file. Finally, they run 'ls -l /home/cyse_project' to list the files in the directory. The output shows four files with their permissions, owners, groups, sizes, dates, and names.

```
Terminal - sohpia@kali.example.com: ~
File Edit View Terminal Tabs Help

(student@kali.example.com)-[~]
└─$ su sohpia
Password:
(sohpia@kali.example.com)-[/home/student]
└─$ cd
(sohpia@kali.example.com)-[~]
└─$ cp sohpia_homework /home/cyse_project/sohpia_homework3
(sohpia@kali.example.com)-[~]
└─$ ls -l /home/cyse_project
total 12
-rw-r----- 1 olivia olivia      0 Oct 13 03:26 sohpia_homework
-rw-r----- 1 sohpia nidas_id_01294591 6 Oct 13 03:36 sohpia_homework2
-rw-r----- 1 sohpia sohpia      6 Oct 13 03:44 sohpia_homework3
-rw-r----- 1 sohpia sohpia      6 Oct 13 03:19 sohpia_homework4
(sohpia@kali.example.com)-[~]
└─$
```

Step 3:

CYSE 270: Linux System for Cybersecurity Lab 6 – File Permission



The screenshot shows a Linux desktop environment with a terminal window open. The terminal window title is "Terminal - olivia@kali.example.com /home/cyse_project". The terminal output shows the following sequence of commands and responses:

```
Terminal - olivia@kali.example.com /home/cyse_project
File Edit View Terminal Tabs Help

(olivia@kali.example.com)-[~]
└─$ su olivia
Password:
(olivia@kali.example.com)-[/home/olivia]
└─$ cat /home/cyse_project/olivia_homework3
cat: /home/cyse_project/olivia_homework3: Permission denied

(olivia@kali.example.com)-[/home/olivia]
└─$ cd /home/cyse_project/
(olivia@kali.example.com)-[/home/cyse_project]
└─$ cat olivia_homework3
cat: olivia_homework3: Permission denied

(olivia@kali.example.com)-[/home/cyse_project]
└─$
```

Three orange arrows point from the desktop icons (Home, File System, and Trash) towards the terminal window, indicating the context of the file permission issue.

This lab was pretty hard for me at the time, with the file permission, but the sudo usermod to the password cracking to almost the whole assignment was pretty hard. It was a lot of coding for me at the time, and this assignment was one of the hardest. Overall, this lab made me face a lot of challenges that made me learn a lot as well.